DOCUMENT RESUME

ED 299 663 EA 020 248

AUTHOR Bishop, John H.
TITLE Why High School Students Learn So Little and What Can Be Done about It. Testimony, Subcommittee on Education and Health, U.S. Congress, October 1, 1987. Working Paper #88-01.
INSTITUTION State Univ. of New York, Ithaca. School of Industrial and Labor Relations at Cornell Univ.
PUB DATE 88
NOTE 54p.
PUB TYPE Reports - Research/Technical (143) -- Information Analyses (070) -- Legal/Legislative/Regulatory Materials (090)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Academic Education; Educational Change; *Educational Objectives; Elementary Secondary Education; Hearings; *Humanities Instruction; Public Schools; School Business Relationship; *Student Educational Objectives; *Student Evaluation

ABSTRACT

The testimony presented in this document outlines the productivity lag between the needs of companies and the students who will enter the work force that is evident today within the United States. Manufacturing companies are having difficulty as they try to introduce flexible manufacturing technology. A lack of skill in communication, mathematics, and reasoning, as well as inadequate knowledge of American history and culture are related to student apathy and lack of motivation. Several reasons are given to explain the discrepancy between earnings and productivity on the job. A comparison is made between the American model and the Japanese model of schooling, which reflects American lack of immediate rewards for excellence in high school, no real consequences for poor academic performance during the high school years, the introduction of competition that is not based upon achieving a fixed standard of performance; and a situation where the teachers blame the students and parents for problems, while the students and parents are blaming the teachers. Suggestions are made to improve education: by rewarding learning with individualized learning goals, by restructuring of schoolwide and classroom recognition of that achievement, and by improving the measures of academic achievement with statewide examinations and reforms of the Scholastic Aptitude Test (SAT). Footnotes, charts, and two pages of references are appended. (LMS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED299663

CORNELL UNIVERSITY

Why High School Students Learn So Little And What Can Be Done About It

Testimony
Subcommittee on Education and Health
U.S. Congress
October 1, 1987

John H. Bishop
Cornell University
Working Paper # 88-01

CENTER FOR ADVANCED HUMAN RESOURCE STUDIES

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John H. Bishop

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA020248

SCHOOL OF INDUSTRIAL AND LABOR RELATIONS

Why High School Students Learn So Little And What Can Be Done About It

Testimony
Subcommittee on Education and Health
U.S. Congress
October 1, 1987

John H. Bishop
Cornell University
Working Paper # 88-01

Center for Advanced Human Resource Studies
New York State School of Industrial and Labor Relations
393 Ives Hall
Cornell University
Ithaca, NY 14851-0952

Former Director of the Center for Research on Youth Employability
and
Associate Director for Research
National Center for Research in Vocational Education

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make the results of Center research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

I. THE PROBLEM

The National Commission on Excellence in Education has stated, "Learning is the indispensable investment required for success in the information age we are entering." The high American standard of living has always depended on the high quality of American workers. There is no way unskilled American manufacturing workers can compete with the millions of unskilled workers of India, China and Latin America. The watchword in American manufacturing is now "AUTOMATE, MIGRATE, OR EVAPORATE." Automation, however, requires a highly skilled and flexible work force. Skilled workers are essential for the design, introduction and maintenance of the advanced manufacturing technologies that must be adopted if we are to maintain our high standard of living.

The problems that General Motors and some other companies have had in introducing flexible manufacturing technology are, therefore, a cause of grave concern . General Motors recently ripped a whole multi million dollar line of robots out of its Lansing engine plant because they could not get it to work reliably. These are very complex interdependent systems. They would be a challenge for any work force. Apparently the challenge was too great for the managers, engineers and workers GM assigned to the task. It is a challenge that other companies in other countries have also faced and overcome. GM's problem is not all that atypical for US installations of flexible manufacturing systems(FMS). Ramchandran Jaikumar found that the 30 FMS installations he studied in the US were much less reliable than the 65 comparable Japanese installations he studied. Average metal cutting time was 20 hours a day in Japan compared to only 8.3 hours a day in the US. He attributed the difference almost entirely to the more effective way the

Japanese had created and managed intellectual assets. "The critical ingredient here is nothing other than the competence of a small group of people."(Ramchandran Jaikumar, Harvard Business Review, Dec. 1986). If our engineers and workers are not capable of making advanced manufacturing systems work reliably, our future as a world class manufacturing power is in doubt.

Further insights into our productivity lag can be gleaned from Andrew Weiss's study of why Japanese electronics manufacturers are more efficient than comparable Western Electric plants. Contrary to myth, he found that the Japanese workers were more likely to be absent, were more likely to quit, and worked at a slower pace than workers in Western Electric plants. The Japanese productivity advantage derived from working smarter, not harder. The suggestions made by employees during just one year had saved $1987 per employee at one firm and $2160 per employee at another. Weiss commented that "Only an exceptionally intelligent and well-motivated labor force is likely to produce such an impressive record of innovation."(Andrew Weiss Harvard Business Review July 1984) He attributed the quality of the work force to the fact that "Successful Japanese electronics manufacturers hire very selectively and recruit the elite of the Japanese labor force." The average quality of the pool from which they select is also very high and this is largely due to the high quality of Japanese primary and secondary education.

Hunter (1983) has examined how cognitive skills improve productivity on the job. Using actual work samples (rather than supervisor ratings) as the criterion of worker productivity, he found that most of the impact of cognitive ability on productivity was through its effect on job knowledge. It is job knowledge (a vocational skill), not general cognitive ability (basic

skills), that has the largest direct impact on actual productivity. This implies that cognitive skills' major contribution to productivity is that they help the worker learn new tasks more quickly. Promotions, turnover, and introduction of new technology make it necessary for worker's to learn new skills at many points in their life. The ability to learn and communicate must be developed early in life as preparation for a lifetime of adapting to change.

The quality of education is not the only determinant of a worker's productivity and a nation's competitiveness and standard of living, but it is probably the most important determinant that is under the control of government. Consequently, "the rising tide of mediocrity" in this arena is a cause of concern. There is mounting evidence that most young people have inadequate skills in communication, mathematics and reasoning. The National Assessment of Educational Progress's (NAEP) study of the literacy of young adults (Kirsch & Jungeblut, 1986) found, for example, that:

> 80% could not interpret a bus schedule well enough to determine when the next bus will arrive if the day is Saturday.
>
> 38% could not use a menu to determine the cost of a simple meal and calculate the change that would be received.
>
> 90% could not use unit price information to determine which product was more economical by calculating cost per ounce from cost per pound.
>
> 44% of blacks, 31% of Hispanics and 10% of whites could not even read a paycheck stub well enough to report gross earnings to date.

A NAEP study of humanities found that 17 year old high school students are woefully ignorant of American history and culture. Even though 80% were currently enrolled in an American history course, the studies found that:

> 39% did not know in which half century the U.S. Constitution was written.
>
> 68% did not know in which half century the U.S. Civil War took place.

> Two-thirds could not name the author of the Canterbury Tales or the Brothers Karamozov.
>
> Half could not identify Churchill or Stalin.

In math and science, fields which are believed to be particularly crucial to productivity and technological progress, our youth lag badly. When comparable tests were given to 17 year olds in college preparatory math and science courses in 15 countries it was found that:

> The US no longer has a higher percentage of its 17 year olds taking advanced mathematics than other Western nations. The percentage of 17 year olds taking advanced mathematics was 13% in the US, 12% in Japan, 18% in Scotland and 30% in British Columbia.
>
> "In most countries all advanced mathematics students take calculus. In the U.S. only one fifth (2.6% of the 17 year old age cohort) do." (McKnight, et al, 1986 viii)
>
> The percent of questions answered correctly by US "advanced" students was 43% in algebra, 31% in geometry and 29% in calculus. The international median in these subjects was 57%, 42% and 46% respectively. Japanese scores were 78%, 60% and 66% respectively. (McKnight, et. al., 1986, p. 125)
>
> On the international physics test first year U.S. students answered 34% of the questions correctly and second year students answered 44% correctly. The international median was 51% correct. Japanese and English students achieved mean scores of 58 and 59% respectively. (Jacobson, 1987)

Recently, there have been some heartening improvements in the academic achievement of high school graduates. Between 1981 and 1985, verbal SAT scores rose 7 points and math SATs rose 9 points. These gains, however, made up for only 1/6 and 1/3 respectively of the declines that had occurred in the previous 13 years (College Board 1985).

II. REASONS FOR POOR BASIC SKILLS

A major reason for the poor performance of our students appears to be lack of motivation. Studies of time use and time on task in high school

show that students actively engage in a learning activity for only about half the time they are scheduled to be in school. Absence rates of 15 percent or more are common. Considerable time is devoted to traveling to and from school and to and from area vocational schools or other special programs. Time is also used for extracurricular activities scheduled during school hours, for class changes, for lunch, and for other nonacademic activities.

Even when students are in class, the teacher and/or students are on task only part of the time. A study of high schools in Chicago found that public schools with high-achieving students averaged about 75 percent of class time for actual instruction; for schools with low achieving students, the average was 51 percent of class time (Frederick 1977). Overall, 46.5 percent of the potential learning time was lost due to absence, lateness, and inattention (Frederick 1979). Other studies have found that for reading and math instruction the average engagement rate is about 75 percent (Fischer et al., 1978; Klein, Tyle, and Wright 1979; Goodlad 1983). For vocational classes it is about 56 percent (Halasz and Behm 1982). When absences, nonclass time, and nonengaged class time are combined, more than half of the weekday of the average high school student is not used for learning.

In 1980, high school students spent an average of 3.5 hours per week on homework. When homework is added to engaged time at school, the total time devoted to study, instruction, and practice is only 18-22 hours per week -- between 15 and 20 percent of the student's waking hours during the school year. By way of comparison, the typical senior in a public high school spent 10 hours per week in a part-time job and more than 20 hours per week watching television. Thus, TV occupies as much of an adolescents time as learning.

Even more important than the time engaged in learning is the intensity of the student's involvement in the process. After 2 years of study of American high schools, Sizer concluded, "No more important finding has emerged from the inquiries of our study than that the American high school student, as student, is all too often docile, compliant, and without initiative" (Sizer 1984). Goodlad had a similar observation "The extraordinary degree of student passivity stands out" (Goodlad 1984). The major cause of these problems is lack of motivation.

Student apathy and student motivation are not the whole of the problem. Parental apathy and parental motivation should also concern us. One of the most striking of Harold Stevenson's findings from his comparative study of education in Taiwan, Japan and the U.S. was that even though American children were learning the least in school, American parents were the most satisfied with the performance of their local schools. Why do Japanese and Taiwanese parents hold their children and schools to a higher standard than American parents?

The U.S. lag in mathematics was revealed by the First International Mathematics Study in 1967. Test scores turned down in 1968. Why did it take until 1981 for a major educational reform movement to get underway? Why did our political system allow the quality of education to decline so dramatically? Why did we set such low standards for our schools? Why do we pay our teachers so little? Why do we give them so little respect? Thus the problem of apathy and motivation is as much a societal problem as it is a parental, a teacher or a student problem.

III. REASONS FOR LACK OF MOTIVATION

The fundamental cause of the apathy and motivation problem is the way

we recognize and reinforce student effort and achievement. The educational decisions of students are significantly influenced by the costs (in money, time and psychological effort) and benefits (praise, prestige, employment, wage rates, and job satisfaction) that result. Any number of empirical studies confirm this.[1] Our problem is that while there are benefits to staying in school, most students do not benefit very much from working hard while in school. The lack of incentives for effort is a consequence of three phenomena:

* The labor market fails to reward effort and achievement in high school.
* Competition for admission to selective colleges pits students at the same high school against each other not against an external standard.
* The peer group actively discourages academic effort.

3.1 The Absence of Major Economic Rewards for Effort in High School

When asked why they work hard in school and/or why they care about grades, college-bound students typically respond, "to get into college" or "to get into a good college." For students who plan to look for a job immediately after high school, however, the situation is different. They typically spend less time on their studies than those who plan to attend college, in large part because most of them see very little connection between performance in high school and their future success in the labor market. Their teachers, of course, tell them that they are wrong, that they will be able to get a better job if they study hard. They look at the labor market and can see that what the teacher says is not true. How successful their older friends are in the labor market does not depend on how much they learned in high school. And their perception is correct, at least in the short run. Consider the following facts:

- For high school students, high school grades and the abilities measured by standardized tests have essentially no impact on labor market success. They have -
  --no effect on the chances of finding work when one is seeking it during high school, and
  --no effect on the wage rate of the jobs obtained while in high school. (Hotchkiss, Bishop and Gardner 1982)

- As one can see in figure 1, for those who do not go to college full-time, high school grades and test scores have -
  --no effect on the wage rate of the jobs obtained immediately after high school,
  --a moderate effect on wage rates and earnings after 4 or 5 years,
  --a small effect on employment and earnings immediately after high school.

- In almost all entry-level jobs, wage rates reflect the level of the job not the worker's productivity. Thus, the employer, not the worker, benefits from a worker's greater productivity. Cognitive abilities and productivity make promotion more likely, but it takes time for the imperfect sorting process to assign a particularly able worker a job that fully uses that greater ability -- and pays accordingly.

The long delay before labor market rewards are received is important because most teenagers are now oriented so benefits promised for 10 years in the future may have little influence on their decisions.

3.2 The Benefits to Employers and Society of Basic Skills

Although the economic benefits of higher achievement to the employee are quite modest and do not appear until long after graduation, the benefits to the employer (and therefore, to national production) are immediately apparent in higher productivity.

Over the last 80 years, industrial psychologists have conducted hundreds of studies, involving many hundreds of thousands of workers, on the relationship between productivity in particular jobs and various predictors of that productivity--general achievement/aptitude tests, biographical inventories, years of schooling, grade point averages, years of experience relevant to the job, age, tests of job knowledge, work samples, peer ratings,

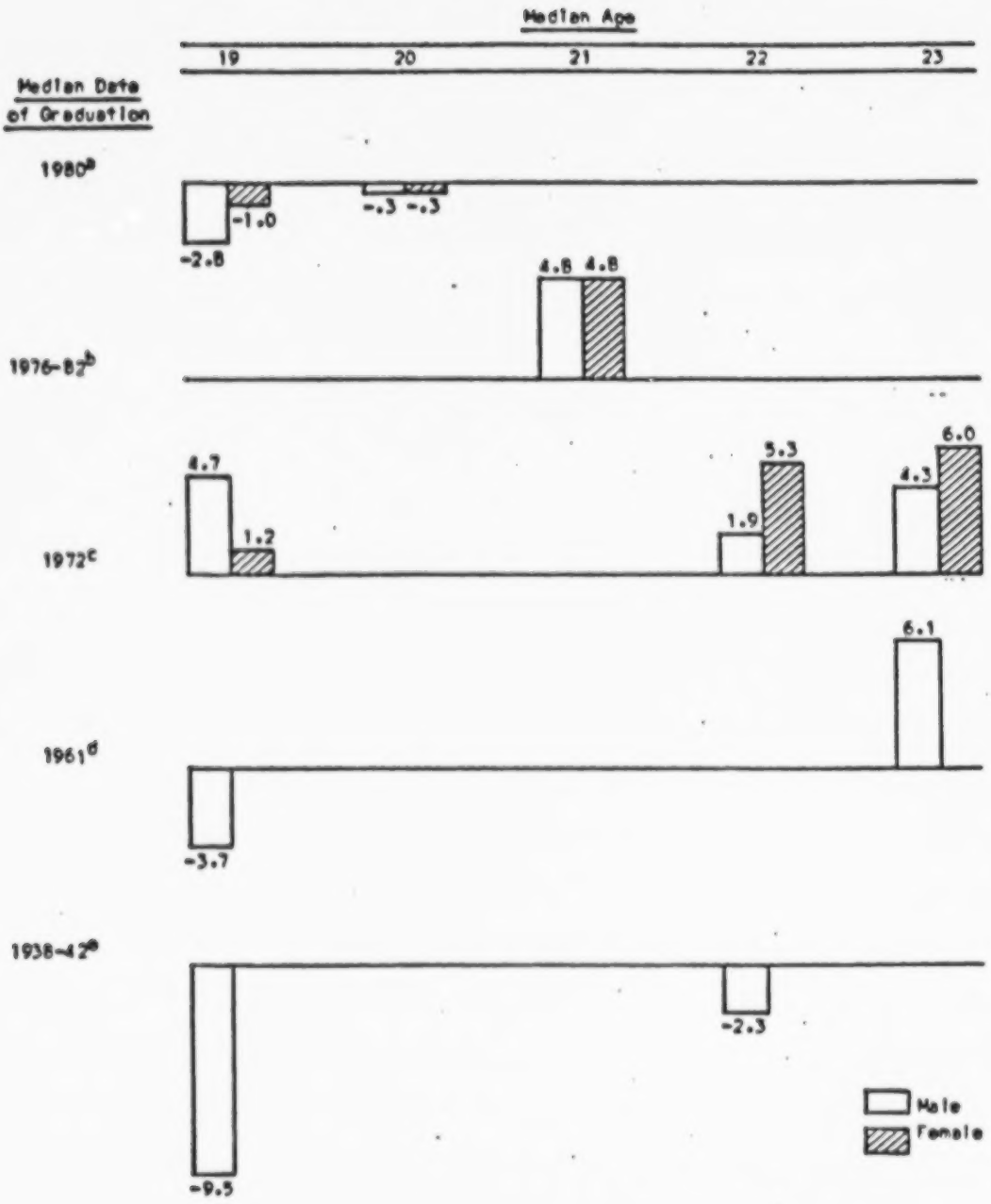

Figure 1. Impact of high school achivement on wage rates shortly after graduation.

NOTE: Bars represent the percentage change in wage rate due to an increase in academic achivement equivalent to 100 points on an SAT test. Source: derived from Appendix Table 1 and 2; [a]Kang, HSR (1984); [b]Gardner, NLS Youth (1983); [c]Meyer, Class of '72 (1982); [d]House & Talent (1975); and [e]Taubman & Wales (1975).

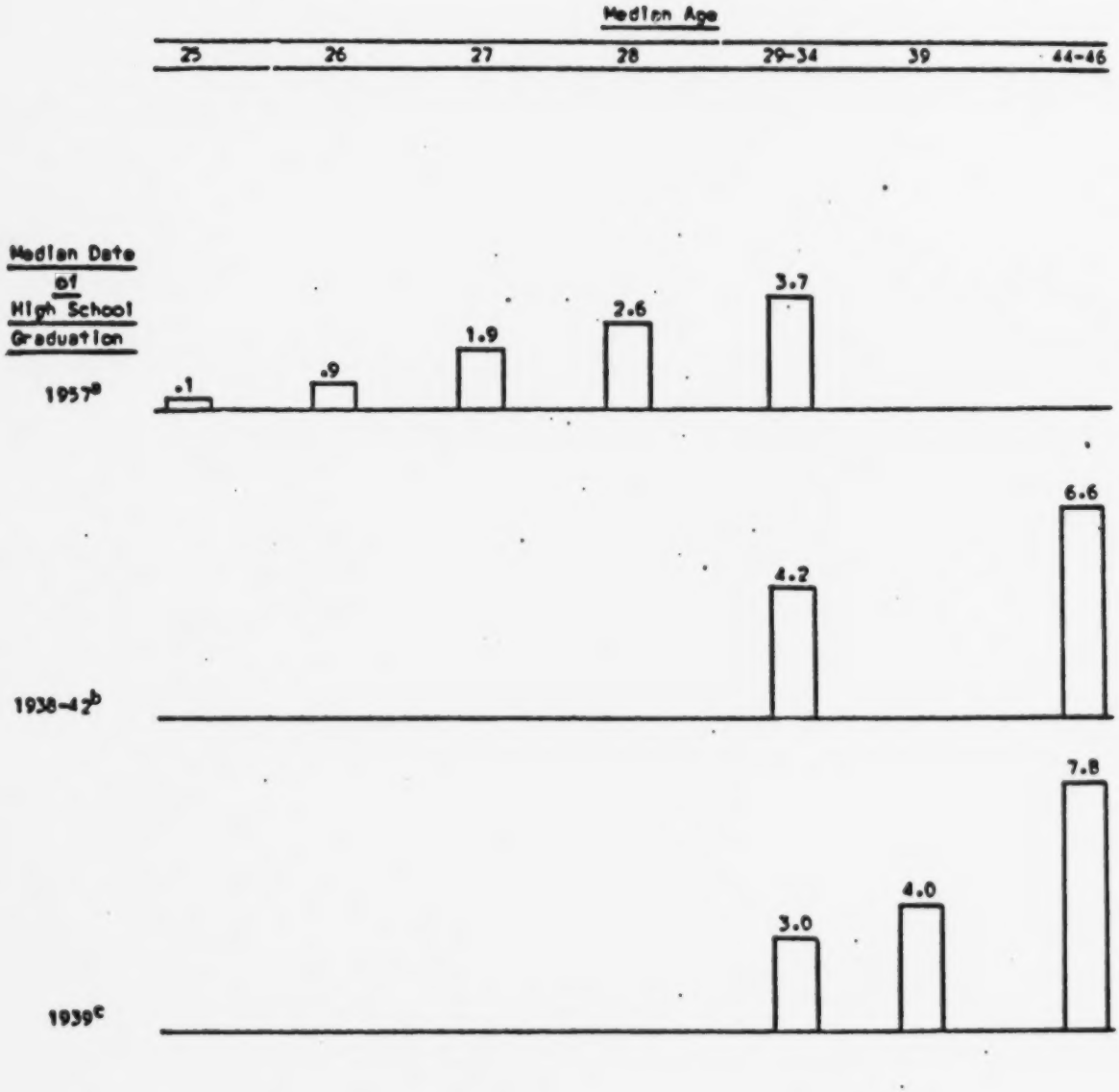

Figure 1a Impact of high school achievement on yearly earnings long after graduation.

NOTE: Bars represent the percentage increase in yearly earnings due to an increase in academic achievement equivalent to 100 points on an SAT test. Source: derived from Appendix Table 2: [a]Hauser, Daymont, & Wise (1977); [b]Taubman & Wales, NBER-TH (1975); and [c]Hause & Rogers (1975).

interviews, and reference checks. Their findings make it clear that the skills schools try to teach (as measured by achievement and aptitude test) do indeed lead to better performance on the job.

Achievement/aptitude tests can be classified into three basic types, each measuring different abilities:

- General mental achievement--General mental achievement tests (such as the Scholastic Aptitude Test (SAT), the ASVAB and components of the GATB focus on verbal, quantitative, and reasoning abilities. Thus, they test the competencies that are the prime objectives of schooling. [School attendance has been shown to improve performance on these tests (Lorge, 1945). Improvements between World War I and World War II of 3/4 ths of a standard deviation (the equivalent of 80 SAT points) in the average test scores of army draftees.]

- General perceptual ability--General perceptual ability is a combination of perceptual speed and spatial and mechanical ability. It includes the ability to perceive detail quickly, to identify patterns, to visualize objects, and to perform other tasks that rely on speed or accuracy in picking out one element from a mass of apparently undifferentiated elements. It demonstrates knowledge of mechanical and electronic principles and facts.

- Psychomotor ability--Psychomotor tests measure the ability to perceive spatial patterns and ability to physically manipulate objects quickly and accurately. An example is a dotting test, which requires the test taker to place a single dot within each of a series of very small circles.

Tests that are closely tied to the skills actually used on the job are, of course, the best predictors of an applicant's future performance on that job. For this reason, different kinds of aptitude tests are used to predict job performance for different types of jobs.

The results of numerous studies provide important evidence that basic skills (measured by general mental ability tests) significantly improve productivity on all types of jobs. I have recently completed an analysis of the effect of various kinds of cognitive and psychomotor achievement on worker productivity. The data base for this study is the US Employment

Service's Individual Observation Data File containing the results of GATB revalidation studies of the productivity of 31,399 workers in 143 different occupations. The results are summarized in Figures 2 through 6. The bars represent in 1985 dollars the effect on productivity of a one standard deviation (1 SD is equal to about 110 points on an SAT test) gain in this type of achievement while work experience and all other forms of achievement are held constant. Quite clearly academic achievement, especially math achievement, has a very large effect on worker productivity. The effect of a gain in math achievement on job performance is more than twice as great as the effect of an equivalent gain in verbal achievement.

Verbal achievements can be demonstrated on application forms and in interviews; math achievement cannot. Consequently, verbal achievement is rewarded more than math achievement. Many students avoid the more rigorous math and science courses, and, as a result, our nation faces a shortage of engineers and scientists. These results clearly imply that schools need to increase the time devoted to math and science and raise standards in these courses. Special attention needs to be given to nurturing mathematical and scientific talent.

Figure 7 compares the impact of mathematical and verbal achievement (specifically a difference of the 110 points on both the math and verbal SATs or its equivalent on other tests and GPA) on the productivity of a clerical worker, on wages of clerical workers, and on the wages of all workers[2,3]. Productivity is clearly raised much more than wage rates. Apparently it is a youth's employer, not the youth, who benefits the most when a non-college-bound student works hard in school and improves his or her academic achievements. The youth is more likely to find a job but not

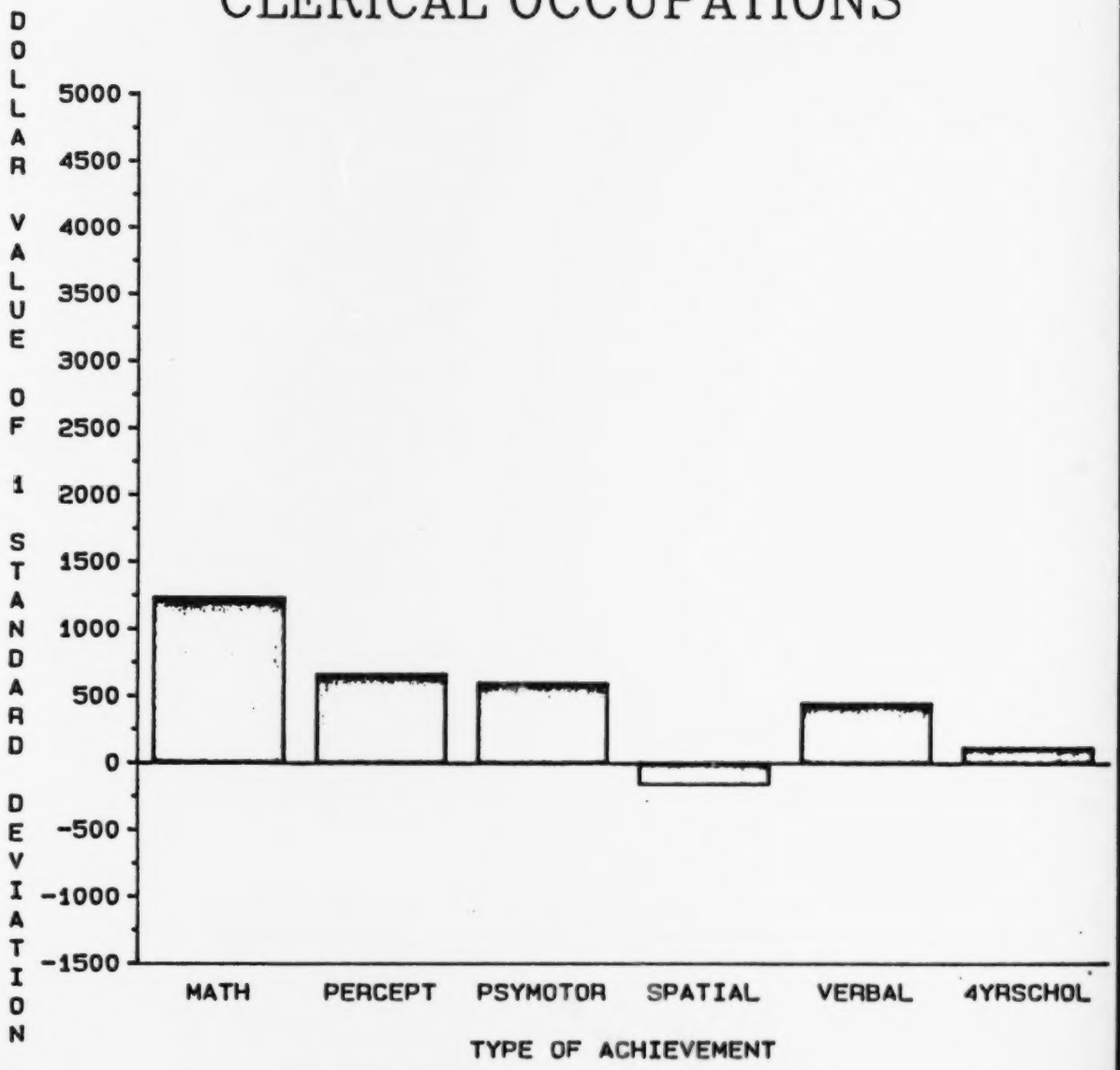
CLERICAL OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -2

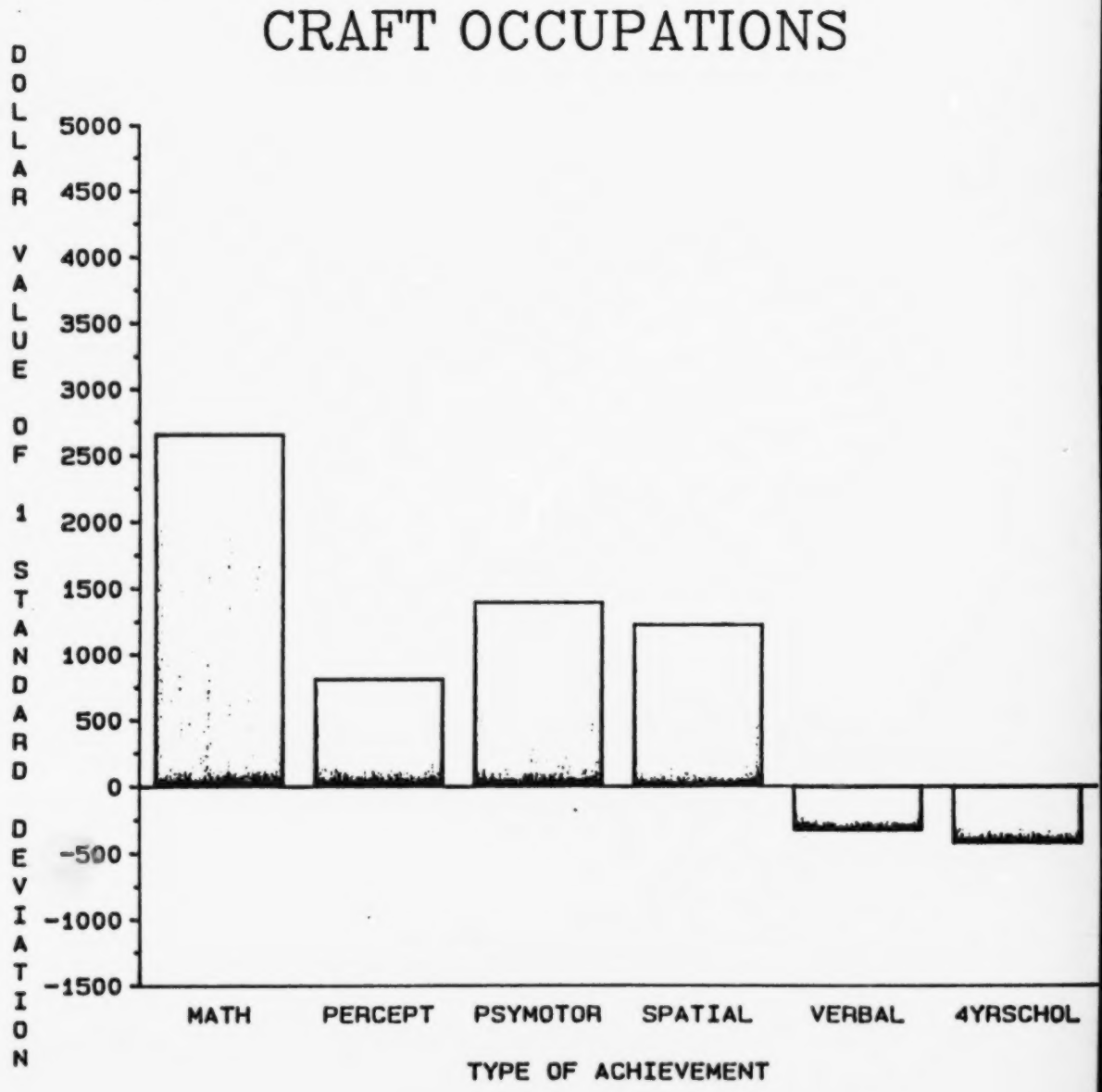
CRAFT OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -3

OPERATIVE AND LABORER
OCCUPATIONS

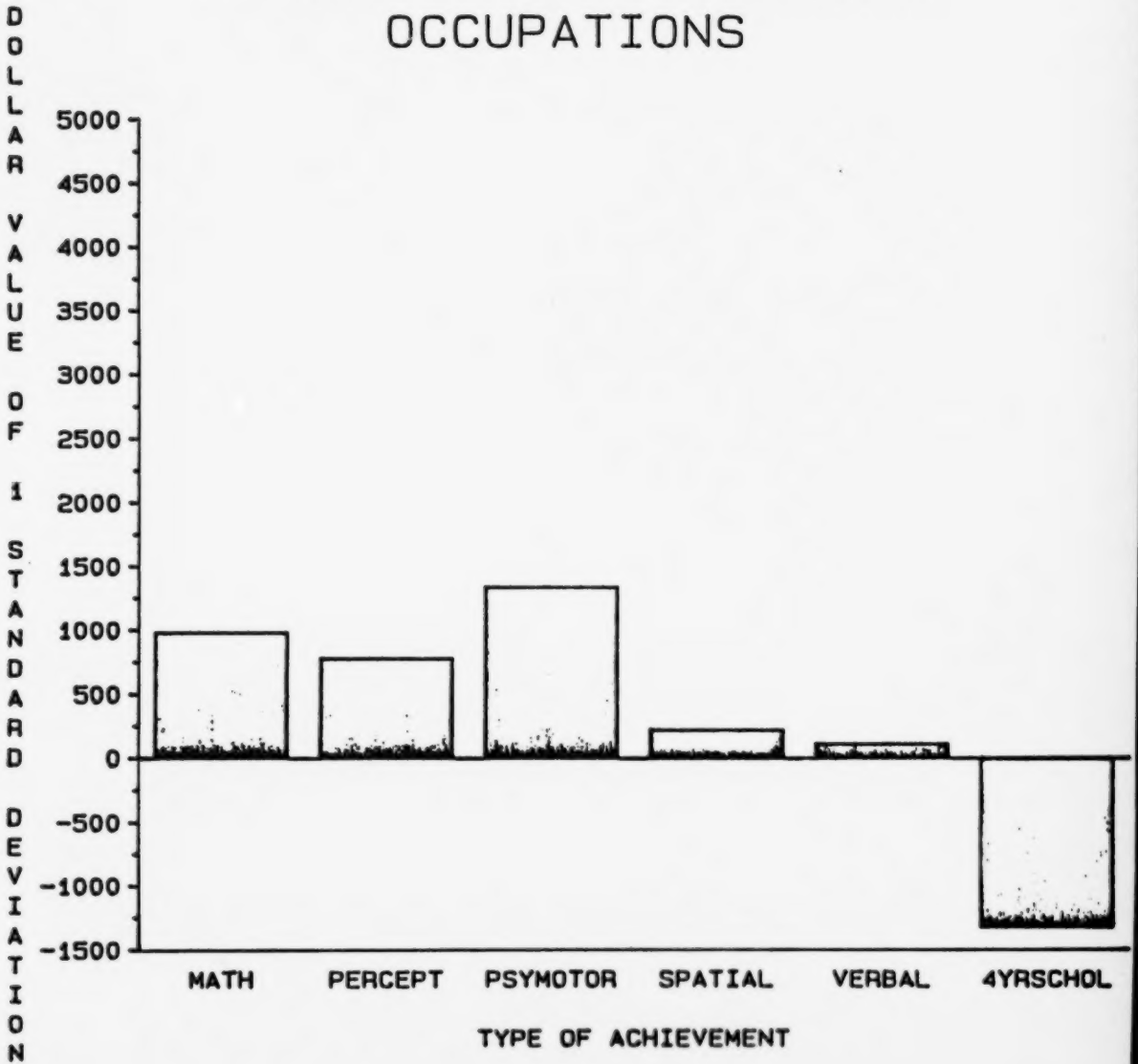

FIGURE -4

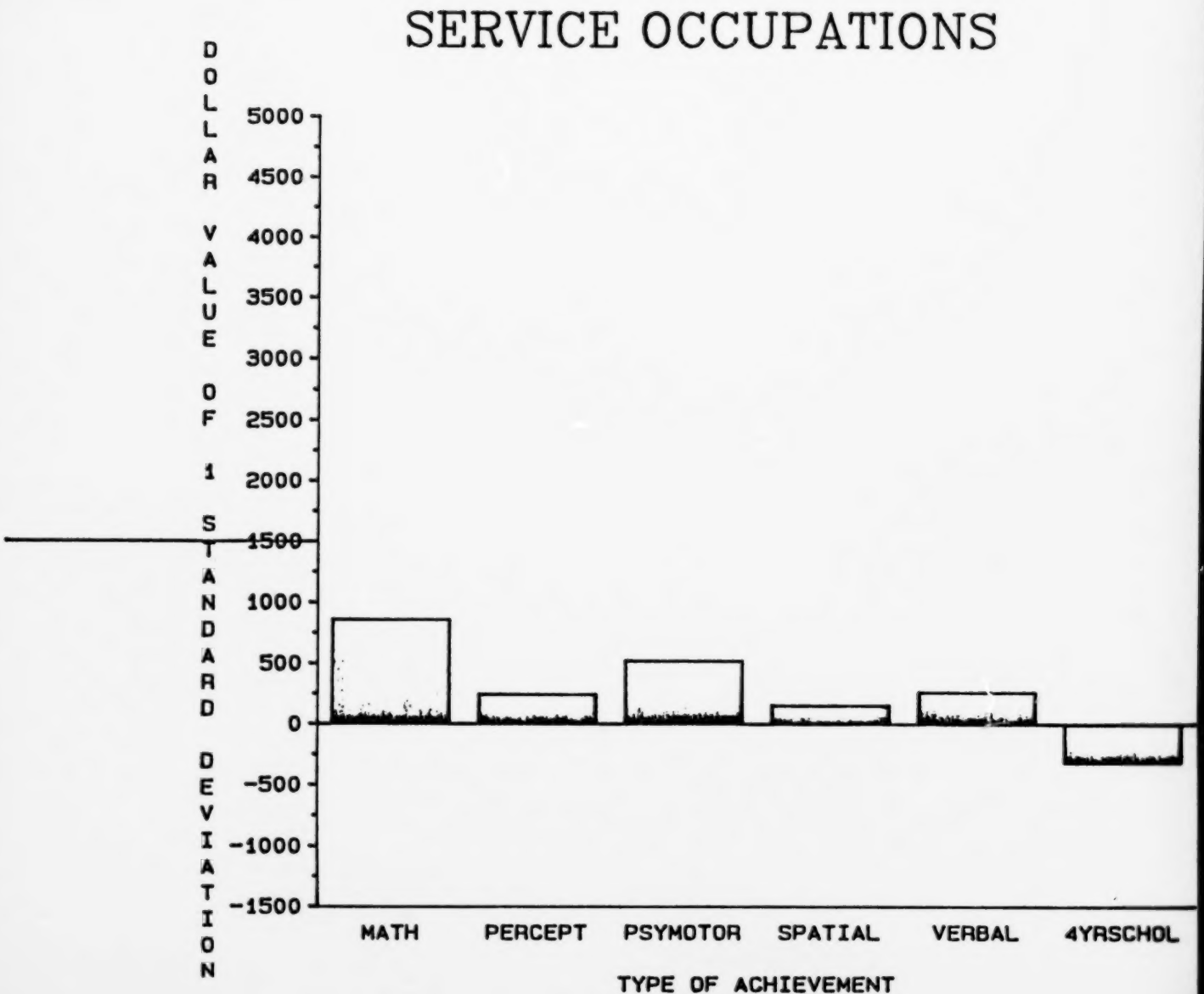
SERVICE OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -5

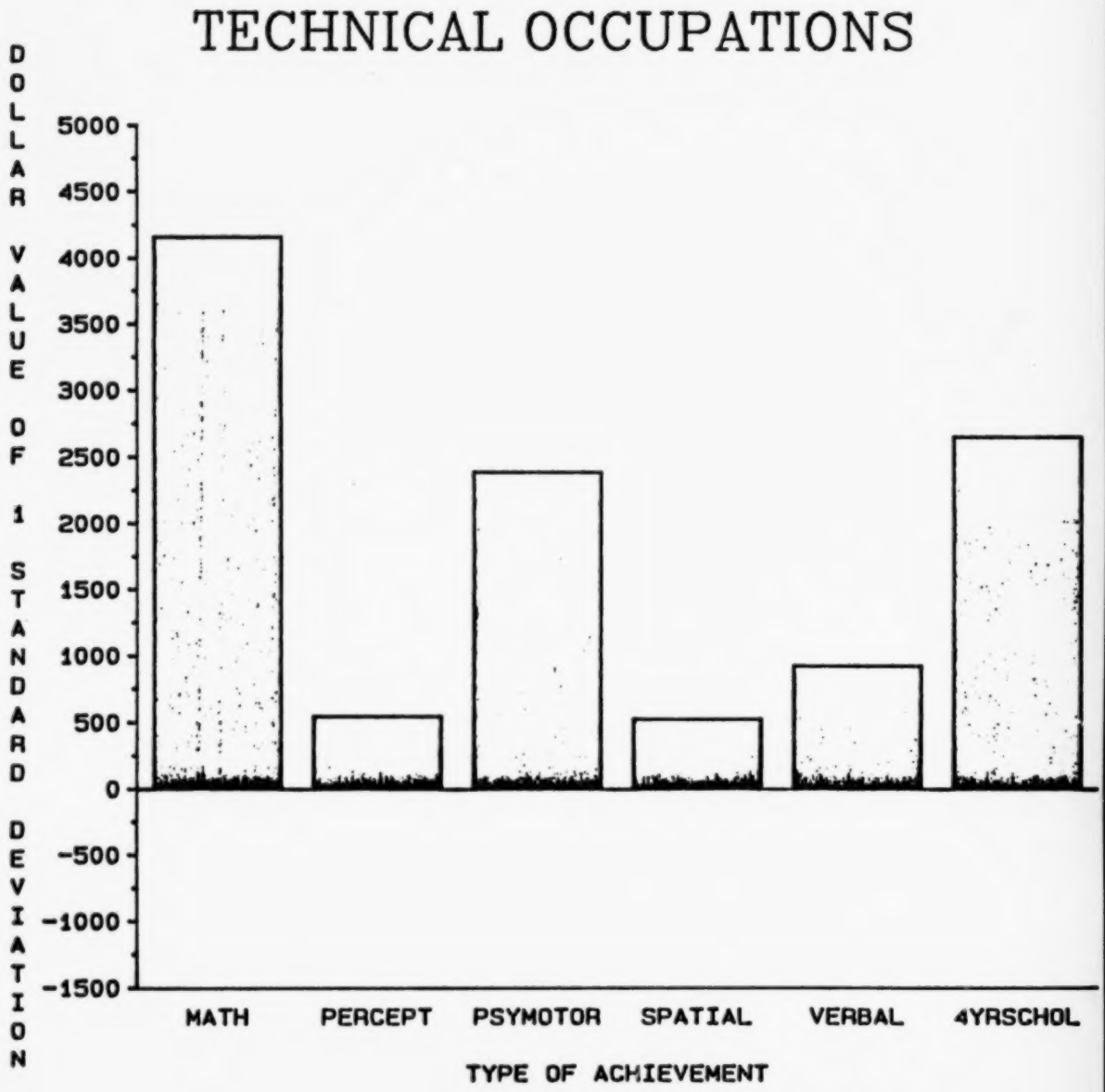
TECHNICAL OCCUPATIONS
DOLLAR VALUE OF 1 STANDARD DEVIATION
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
MATH
PERCEPT
PSYMOTOR
SPATIAL
VERBAL
4YRSCHOL
TYPE OF ACHIEVEMENT

FIGURE -6

Impact of 110 Point
Improvement
on both Math and Verbal SAT

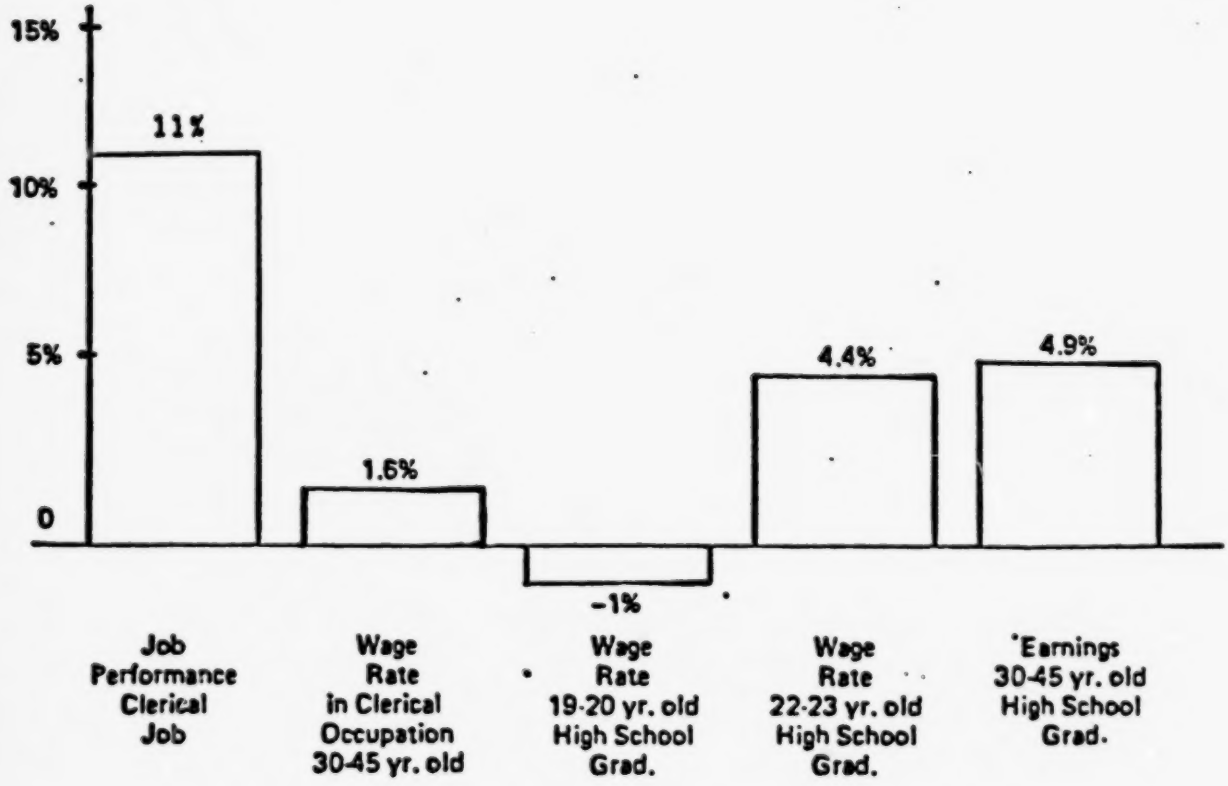

Figure 7

one with an appreciably higher wage. The next section examines reasons for the discrepancy.

3.3 Reasons for the Discrepancy between Wage Rates/Earnings and Productivity on the Job

Employers are presumably competing for better workers. Why doesn't competition result in much higher wages for those who achieve in high school or for those who do well on a general mental ability test? The cause appears to be the lack of objective information available to employers on applicant accomplishments, skills, and productivity.

Tests are available for measuring some skills, but court decision, e.g., Griggs vs. Duke Power Company (1971), and pressure from Equal Employment Opportunity Commissions have reduced their use. Consequently, hiring selections and starting wage rates often do not reflect the competencies and abilities students have developed in school or through on-the-job training in previous positions. Instead, hiring decisions are based on observable characteristics (such as years of schooling and field of study) that serve as signals for the competencies the employer cannot observe directly. As a result, the worker's wage reflects the average productivity of all workers with the same set of educational credentials rather than that individual's productivity.

Employers can also get the objective information they need through transcripts and through referrals from trusted sources that know about the applicant. Both these means are under used.

Little Use of Transcripts

Employers currently make only limited use of high school transcripts in hiring. The only information about school experiences requested by most

job application forms is years of schooling, whether a diploma or certificate was obtained, and area of specialization, if any. These attributes play an important part in employer decisions. Probably because of unreliable reporting, most applications do not ask the individual to report grade point averages. If a student or graduate has given written permission for a transcript to be sent to an employer, the Buckley amendment obligates the school to respond. Many high schools are not, however, responding to such requests. The experience of Nationwide Insurance, one of Columbus's most respected employers, is probably representative of what happens in most communities. Permission to obtain high school records is obtained from all young people who interview for a job. Nationwide sent over 1,200 such signed requests to high schools in 1982 and received only 93 responses. Employers reported that colleges were much more responsive to transcript requests than high schools. High schools have apparently designed their systems for responding to requests for transcripts around the needs of colleges and their college attending graduates not around the needs of employers and their graduates who are seeking a job.

There is an additional barrier to the use of high school transcripts in selecting new employees--when high schools do respond, it takes a great deal of time for them to do so. For Nationwide Insurance the response almost invariably took more than 2 weeks. Given this time lag, if employers required transcripts prior to making hiring selections, a job offer could not be made until a month or so after an application had been received. Most jobs are filled much more rapidly than that. The 1982 NCRVE employer survey of employers found that 83.5 percent of all jobs were filled in less than a month, and 65 percent were filled in less than 2 weeks. as a result, nearly

99 percent of the youth hired at Nationwide were selected before their high school transcripts were received. (Employers are equally unwilling to wait for written referrals from previous employers; at Nationwide, most of the written references requested from previous employers arrived after hiring decisions had already been made.)

3.4 The Large Social Benefits vs. Small Private Rewards

The evidence presented implies that the social benefits of developing basic skills are considerably greater than the private rewards. Despite their higher productivity young workers who have achieved in high school and who have done well on academic achievement tests do not receive higher wage rates immediately after high school. The student who works hard must wait many years to start really benefiting and even then the magnitude of the wage and earnings effect--a 1 to 2 percent increase in earnings per grade level equivalent on aa achievement test--is considerably smaller than the actual change in productivity that results.

Learning that is certified by a credential is rewarded handsomely. Learning not certified by a credential is either not rewarded or only modestly rewarded. Consequently there are strong incentives to stay in school; but much weaker incentives to study hard while in school. Performance in school is hard to verify because transcripts are not very informative, because job seekers do not bring their transcripts with them when they apply for a job, and because the requirement of written permission for release means the transcript often cannot arrive in time to influence the hiring decision. The consequence is under investment in the quality of one's education both in school and at jobs. The lack of significant rewards for academic achievement in the years immediately after leaving school contributes to

the lack of motivation of many high school students and the resulting deficit in basic skills and higher level reasoning abilities.

The tendency to under reward effort and learning in school appears to be a peculiarly American phenomenon. Grades in school are a crucial determinant of which employer a German youth apprentices with. Top companies in Japan and Europe often hire lifetime employees directly out of secondary school. Teacher recommendations, grades in school and scores on national and provincial exams have a significant impact on who gets to work at the more prestigious firms (Leestma, et. al., 1987). Japanese parents know that their son or daughter's future economic and social rank in society critically depends on how much he or she learns in secondary school. Learning achievement is defined and measured relative to everyone else in the state or nation and not just relative to ones classmates in the school. This is why Japanese parents demand so much of their children and of their schools. Japanese adolescents work extremely hard in high school but once they have entered college, they stop working. A country club atmosphere prevails. The reason for the change in behavior is that employers apparently care only about which university the youth attends, not about the individual's academic achievement at the university. Working hard is not a national character trait, it is a response to the way Japanese society rewards academic achievement.

Now let us return to the question of why parents and elected school officials in the US were so apathetic about school quality during the 1970's. Why is it irrelevancies like school closings that draw the crowds to school board meetings and not debates over standards? Why are American parents so happy with schools that do such a poor job of teaching? I suggest that

student apathy, parental apathy, school board apathy and political apathy regarding secondary education all have the same two root causes.

3.5 No Fault Adolescence

The first cause is a syndrome I call NO FAULT ADOLESCENCE. During the 1960's and 1970's we adopted practices and developed institutions which hid from ourselves our failure to teach, which protected our adolescents from the consequences of their failure to learn and which prevented many of those who did learn from reaping the fruits of their labor. If learning were defined by an absolute standard not by ones ranking in the school and the rewards for learning were as attractive as they are in Japan, everyone—students, teachers, parents and school boards--would behave very differently. Parents would demand that their school be the best and would be willing to tax themselves heavily to achieve that result. The status and salary of secondary school teachers would rise, the requirements for entry into the profession would increase, and standards of teacher performance would improve. If parents were not satisfied with their child's academic progress, they would send him or her to a tutor or an after school just as Japanese parents do. Adolescents would no longer be such reluctant learners.

How does our society institutionalize no fault adolescence? In part it is a result of social promotion. But more significantly it is a consequence of the way employers select young workers. When hiring young people recently out of high school, most employers, even those like IBM and Morgan Guarantee and Trust who receive hundreds of applications for every opening, do not demand to know what was learned in school. Credentials are generally awarded for time spent in school, and all other information on what was learned in school is very difficult for employers to obtain. Most

employers have given up trying to find out. As a result, the quality of the job one obtains after high school is little effected by effort and accomplishment in high school.

3.6 The Zero-Sum Nature of Academic Competition in High School

The second root cause of the lack of real motivation to learn in middle school and secondary school is the ZERO SUM NATURE OF THE ACADEMIC GAME. Under our current system the academic side of school forces adolescents to compete against each other. Their achievement is not being measured against an absolute or an external standard. In contrast to Scout merit badges where recognition is given for achieving a fixed standard of competence in a given field, the only measures of achievement that receive attention in school are measures of one's performance relative to one's close friends such as grades and rank in class. When a student tries hard and excels in school, he/she is making things worse for his or her friends. When we set up a zero sum competition among close friends, we should not be surprised when they decide not to compete. All work groups have ways of sanctioning "rate busters." High school students call them "brain geeks", "grade grubbers" and "brown nosers". One student told me that "In most of the regular classes... if you raised your hand more than twice in a class, you were called a 'teachers pet.'"

Adolescents do not mind working hard. Watch them working at Wendys and McDonalds. Watch them working on a Scout merit badge. Watch them at football practice. In these environments they are not competing against each other. They are working together as part of a team. Their individual efforts are visible to their peers and appreciated by them. On the sports field, there is no greater sin than giving up, even when the score is

hopelessly one sided. On the academic side of high school, there is no greater sin than trying hard.

The lack of external standards for judging academic achievement and the resulting zero sum nature of academic competition in the school also influences the school board and the political system. Parents can see that setting higher academic standards or hiring better teachers will not improve their child's grade point average or rank in class. The Scholastic Aptitude Test is intended to be curriculum free. Raising standards at the high school will have only minor effects on how my child does on the SAT, so why worry about standards. In any case, doing well on the SAT matters only for those who aspire to attend a college like Brown or Cornell. Most students are planning to attend a public college, many of which admit all high school graduates from the state with the requisite courses.

The parents of children not planning to go to college have an even weaker incentive to demand high standards at the local high school. They believe that what counts in the labor market is getting the diploma not learning algebra. They can see that learning more will be of only modest benefit to their child's future and that higher standards might put at risk what is really important--the diploma.

Only at higher levels of government such as the state or nation do the real costs of mediocre schools become apparent. The whole community loses because the work force is less efficient and it becomes difficult to attract new industry. Competitiveness deteriorates and the nation's standard of living declines. This is precisely the reason why state governors and state legislatures have been the energizing force of school reform. State governments, however, are far removed from the classroom and the instruments

available to them for imposing reform are limited. Minimum competency tests for receiving a high school diploma are an example of an externally imposed standard of achievement. They are a step in the right direction especially when they are taken early in high school and remedial classes are offered after school and during the summer for those who fail on the first try. Some students arrive in high school so far behind, however, and the consequences of not getting a diploma are so severe, we have not been willing to set the minimum competency standard very high. As a result, minimum competency tests have only modest incentive effects for the great majority of the students.

3.7 The Consequences for Classrooms Interaction

The lack of standards of achievement external to the classroom also has a damaging effect on the motivation of students and teachers. As Theodore Sizer has observed, "A lot of the honors students aren't questers. They dodge the hard problems, the hard courses, to keep their averages up."(p. 53) Teachers find it difficult to escape being infected by the lassitude for the students can be cruel if they are not entertained or if they perceive the work load to be too heavy. Sizer's description of Ms. Shiffe's class, was strikingly similar to one of the classes I visited in my research:

> Even while the names of living things poured out of Shiffe's lecture, no one was taking notes. She wanted the students to know these names. They did not want to know them and were not going to learn them. Apparently no outside threat--flunking, for example--affected the students. Shiffe did her thing, the students chattered on, even in the presence of a visitor....Their common front of uninterest probably made examinations moot. Shiffe could not flunk them all, and if their performance was uniformly shoddy, she would have to pass them all. Her desperation was as obvious as the students cruelty toward her."(p157-158)

How does a teacher avoid this treatment? Sizer's description of Mr. Brody's class provides one example.

> He signaled to the students what the minima, the few questions for a test, were; all tenth and eleventh-graders could master these with absurdly little difficulty. The youngsters picked up the signal and kept their part of the bargain by being friendly and orderly. They did not push Brody, and he did not push them. The classroom was tranquil and bland. By my watch, over a third of the time was spent on matters other than history, and two-thirds of the classes ostensibly devoted to the subject were undemanding. Brody's room was quiet, and his students liked him. No wonder he had the esteem of the principal who valued orderliness and good rapport between students and staff. Brody and his class had agreement, all right, agreement that reduced the efforts of both students and teacher to an irreducible and pathetic minimum.(p. 156)

Some teachers, through brilliance or force of personality, are able to overcome the obstacles and stimulate their students to learn. But for most mortals the lassitude of the students is too demoralizing. Everyone in the system recognizes that there is a problem, but each group fixes blame on someone else. The teachers tend to blame the parents or the administrators. The students and parents tend to blame the teachers. As one student put it:

> As it stands now, there is an unending, ever increasing cyclic problem. Teacher and administrator disinterest, apathy and their lack of dedication results in students becoming even more unmotivated and docile, which in turn allows teachers to be less interested and dedicated. If students don't care, why should teachers? If teachers don't care, why should the students (Krista 1987).

Yes it is a classic chicken vs egg problem. We assign teachers the responsibility for setting high standards but we do not give them any effective means except the force of their own personality for inducing student acceptance of the academic goals of the classroom. Most students view the costs of studying hard as much greater than the benefits, so the peer group pressures the teacher to go easy. As Sizer and others have observed, all too often teachers are forced to compromise their academic demands by their inability to induce the bulk of the class to accept them as reasonable and

legitimate. We would like the students to perceive themselves as a team and the teacher as a coach both working toward a common goal. Unfortunately, the teacher is often viewed as a judge whose only power is to reward one student at the expense of another.

The message of this paper is that the cause of the problem is really the system by which we define and reward academic achievement. In the current institutional environment, one cannot realistically expect to identify and attract enough gifted teachers to solve the problems described above.

IV. HOW TO IMPROVE THE QUALITY OF EDUCATION

The rapid gains in academic achievement overseas and declining achievement here spell trouble for the American economy. The problem is so serious and so longstanding nothing short of radical reform will help. Most of the reforms now underway are desirable, but by themselves they are insufficient.

Proposed reforms of secondary education include stricter graduation requirements, more homework, increases in the amount and difficulty of course material, greater emphasis on the basics (English, math, science, social science, computer science), and improvements in the quality of teaching through higher salaries, career ladders, and competency tests for teachers. Although important, these reforms are limited in that they emphasize changes in the content and quality of what is offered by the school and require the student to work harder. They have given insufficient attention to how to motivate students to work harder. Learning is not a passive act; it requires the time and active involvement of the learner. In a classroom with 1 teacher and 18 students, there are 18 learning hours spent to every 1 hour of teaching

time. Student time is therefore very important and how intensely that time is used affects learning significantly. Students should be given the opportunity to devote more time to learning. Clearly, then, attention needs to be given to how much time and energy students devote to learning.

The key to motivation is recognizing and rewarding learning. Individualized learning goals should be established which stretch the student to the maximum extent possible. Achievement of these goals would be assessed by the school and recognized at an awards ceremony. The student would receive a competency profile describing these achievements that would aid in securing employment. If the labor market knows who has learned what, it will provide the rewards.

The second way schools can generate stronger incentives for learning is to restructure schoolwide and classroom recognition of student achievement so that everyone has a chance to be recognized for their contribution, greater effort by everybody makes everybody better off, and there are significant rewards for learning and real consequences for failing to learn. As Theodore Sizer has advocated, "The better the performance, the greater [should be] the latitude given the student."(Sizer p. 67) Bloom's theory of mastery learning says that there are no differences in what people can learn, only differences in the rate at which people learn. Given enough time, everyone can achieve mastery. There is a need for massive doses of mastery learning. The primary consequence of a failure to learn should be more time devoted to learning. Extra classes could be scheduled after school and during the summer. Learning would be defined as gains in competence and gains in knowledge, not as an absolute standard of performance. The gifted and the handicapped would be stretched as would everyone else. The

reward for effort and for learning would be free time. Schools would be open all day and all year. Enrichment programs designed to attract all students would be offered during the additional time. Everyone would be encouraged to participate but only the unsuccessful learners would be obligated to participate.

Some might respond to these proposals by stating a preference for intrinsic over extrinsic motivation of learning. This, however, is a false dichotomy. No where else in our society do we expect people to devote thousands of hours to a difficult task and receive only intrinsic rewards. Public recognition of achievement and the symbolic and material rewards received by achievers are important generators of intrinsic motivation. They are, in fact, one of the central ways a culture symbolically transmits and promotes its values.

It goes without saying that these reforms involve a radical restructuring of our schools. No fault adolescence and the zero sum nature of academic competition would pass from the scene. The incentives faced by everyone in the system would change and this would probably lead to a major increase in public investment in education. The proposed reforms are not simple to implement and they need not be implemented all at once. The discussion of the recommendations that follows is organized into six sections:

4.1 Improving Measures of Academic Achievement.

4.2 Getting the Peer Group to Encourage Learning.

4.3 Creating New Learning Opportunities in School.

4.4 Generating Additional Recognition and Reward for Learning.

4.5 Creating New Learning Opportunities Outside of School.

4.6 Helping Students Obtain Good Jobs

4.1 Improving Measures of Academic Achievement

Certifying Competencies

Schools should provide graduates with certificates or diplomas that certify the students' knowledge and competencies, not just their attendance. Competency should be defined by an absolute standard in the way Scout merit badges are.

Instituting Statewide Examinations

States should adopt statewide tests of competency and knowledge that are specific to the curriculum being taught, such as New York State's Regents Examinations. If a state does not have such exams, a school district (or the members of each department of a school) could establish its own exams. Such examinations would offer several benefits.

- Better inform students and parents about how well the student is doing and thus help parents work with teachers to improve their children's performance.
- Make the relationship between teachers and students more cooperative, with the teacher and students working jointly to prepare the students for the exam.
- Strengthen student incentives to learn because they would now be able to signal to their parents and employers their competence in specific curriculum areas.
- Create a database that school boards and parents could use to evaluate the quality of education being provided by their local school.
- Enable employers to use scores on these examinations to help improve their selection of new employees. If the uncertainties involved in hiring are reduced, expanding employment will become more profitable, total employment will increase, and recent high school graduates will be better able to compete with more experienced workers.

Reform the SAT and ACT Tests

While national or statewide tests are necessary, the Scholastic Aptitude Test (SAT) is not the kind of test that is helpful. The SAT suffers from

two very serious limitations: the limited range of the achievements that are evaluated and its multiple choice format. The test was designed to be curriculum free. To the extent that it evaluates the students' understanding of material taught in schools, the material it covers is almost entirely the elementary and junior high curriculum, not the high school curriculum. As a result, it fails to generate incentives to take the more demanding courses or to study hard. The multiple choice format is also a severe limitation. National and provincial exams in Europe are predominantly essay examinations. The absence of essays on the SAT and ACT tests contribute to the poor writing skills of American students. The test advertises itself as an ability test but is in fact an achievement test measuring a very limited range of achievements.

Christopher Jencks and James Crouse made many of the same criticisms of the SAT in a 1983 article in the Public Interest. They recommended that the SAT evaluate a much broader range of achievements. I support their position. A portion of the test should involve writing an essay. Knowledge and understanding of literature, history and science and higher order thinking skills should all be assessed.

Colleges should require that students take at least two subject specific exams. The advanced placement exams are examples of the kind of exams we need. These exams should not be limited to the multiple choice format. Foreign language exams, for example, should test conversational skills as well as reading and writing. Students taking science courses should be expected to conduct experiments and demonstrate the use of lab equipment.

<u>Promote the Development of New Assessment Mechanisms</u>

Linking assessment to the curriculum requires a greater diversity of

assessment mechanisms. States should not be prevented from having their own unique curriculum simply because the available examinations and assessment tools are so limited. However, the need for multiple versions and for fairness to minorities make test development very expensive. The federal government should underwrite state consortia and other organizations that seek to develop alternatives to currently available tests and assessment mechanisms. Emphasis needs to be placed on developing methods of assessing higher order thinking skills and competencies that cannot be evaluated using a multiple choice format.

While testing organizations would publish and oversee grading of the exams, the subjects covered by the exam and the skills tested would be selected by a committee of teachers and specialists in the field. Examples of groups that might sponsor and direct test development are the National Council of Teachers of Mathematics, associations of private colleges, state boards of education, and textbook publishers. There should be a conscious effort to maximize philosophical and educational diversity in the selection of consortia for funding. The push for better measures of student learning should not be limited to the academic arena. A similar effort should be made in the vocational area.

4.2 Getting the Peer Group to Encourage Learning

Cooperative Learning

One effective way of inducing peers to value learning and support effort in school is to reward the group for the individual learning of its members. This is the approach taken in cooperative learning. Students are grouped into evenly matched teams of 4 or 5 members that are heterogeneous in ability. After the teacher presents new material, the team works together on work

sheets to prepare each other for periodic quizzes. The team's score is an average of the scores of team members, and high team scores are recognized in a class newsletter or through group certificates of achievement.[4]

Slavin (in press) has recently reviewed 27 field experiments that compared cooperative learning strategies combining group study and group reward for individual learning with the standard individual-reward-for-individual-learning system (Slavin 1985).[5] In 24 of these studies, cooperative learning had a statistically significant positive effect on learning. Where effect sizes were available, they were approximately 30 percent of a standard deviation on the post test.

A number of studies have been conducted in which the various components of the cooperative learning model described previously have been tested on their own or in 2 x 2 factorial experimental designs. The four studies that examined the effects of group study without group rewards for individual learning found that such a strategy had no positive effects. Group study methods that offered group rewards based on the quality of a group product were also not found to increase learning. These results suggest that the two key ingredients for successful cooperative learning are as follows:

- A cooperative incentive structure--awards based on group performance--seems to be essential for students working in groups to learn better.
- A system of individual accountability in which everyone's maximum effort must be essential to the group's success and the effort and performance of each group member must be clearly visible to his or her group mates.

These results provide important evidence of the importance of peer norms. What seems to happen in cooperative learning is that the team develops an identity of its own, and group norms arise that are different from the norms that hold sway in the student's other classes. The group's identity arises

from the extensive personal interaction among group members in the context of working toward a shared goal. Since the group is small and the interaction intense, the effort and success of each team member is known to other teammates. Such knowledge allows the group to reward each team member for his or her contribution to the team goal, and this is what seems to happen.

4.3 Creating New Opportunities for Learning in School

Turn Schools into All Day Learning Centers

Schools should remain open after the end of the regular school day. A full range of remedial and enrichment programs and extra curricular activities and interscholastic sports should be offered. The library should remain open during this period and the auditorium could be used for showing educational films and video tapes. Extra help would be available for students having difficulty with the core curriculum. Volunteers to provide tutoring and to offer special interest courses could be recruited from the community. Employers and unions could be approached about sending a member of their staff to supervise an extra curricular activity or provide tutoring. Private teachers of music, art and other subjects could also use school facilities during these hours. The benefit of this reform is that (1) the regular school day would be freed up for more intensive study of the core curriculum, (2) slower students would be given the extra instruction they need, and (3) the phenomenon of the latch key child would be significantly reduced or eliminated.

Keep the Schools Open During the Summer

A variety of remedial, enrichment and special interest short courses should be offered during the summer. While many of the teachers would be regular school staff, an education degree and state certification would not

be required. Local businesses and unions should be encouraged to offer their employees as teachers. Private teachers of music, art, athletics and academic subjects could also offer their own courses at the school. Where appropriate, academic credit would be given for the summer school courses. The school district would provide transportation.[6]

4.4 Generating Additional Recognition and Rewards for Learning

A Massive Dose of Mastery Learning

Students who are not learning at the desired rate should be expected to commit additional time to the task during the summer. At the beginning of the school year school personnel would meet with the student and his or her parents to set goals. Students who are not performing at grade level in core subjects and who do not make normal progress during the school year should be required to attend summer school.[2] Assessments of progress should be made at appropriate points during the school year to inform students of their progress and to enable those who have been taking remedial courses to demonstrate they are now progressing satisfactorily. Course grades and teacher evaluations would be a central part of the assessment process, but there should be an external yardstick as well. The external yardstick might be a competency check list, a mastery test keyed to the textbook, or an exam specified by the state, the school or collectively by the teachers in the that grade level or department. The assessment tools would be established at the beginning of the school year. The reason for the external yardstick is that it helps insure that students perceive the standard to be absolute rather than relative to others in the class and it helps create a communality of interest between teacher and student. Teachers need to be perceived as

helping the student achieve the student's goals not as judges meting out punishment. Final decisions regarding who would be required to attend summer school could be made by committees of teachers possibly with some administrative representation. Since students will want to avoid being required to take remedial courses, this will be a powerful incentive for them to devote themselves to their studies.

Honoring Academic Achievement

Schools should strengthen their awards and honors system for academic and nonacademic accomplishments. The medals, trophies, and school letters awarded in interscholastic athletics are a powerful motivator of achievement on the playing field. Academic pursuits need a similar system of reinforcement. Public school systems in Tulsa and a number of other cities have started awarding school letters for academic achievements. Awards and honors systems should be designed so that almost every student can receive at least one award or honor before graduation if he or she makes the effort. Outstanding academic performance (e.g., high grades or high test scores) would not have to be the only way of defining excellence. Awards could be given for significant improvements in academic performance since the previous year or since the beginning of the school year, for public service in or out of school, for leadership and participation in extracurricular activities, for participation in student government, for perfect attendance records, and for student of the week (criteria would vary weekly). The standard for making an award should be criterion referenced: if greater numbers achieve the standard of excellence, more awards should be given.

Periodically, the parents of the most recent award winners and sponsoring teachers should be invited to an evening assembly at which time the principal

would award the students the certificate or plaque recognizing their accomplishments. A prominent place in the school should be reserved for bulletin boards where pictures of the most recent winners and reasons for their receiving recognition could be posted. Another form of recognition could be displays of student work: art, science, social studies, vocational education projects, and so forth. While the primary purpose of this system would be to improve the school's educational climate, a secondary effect would be the creation of a tool to help the student obtain a good job. The potential of these awards as an aid to improving employability should be made clear to students and parents.

Allow Employers to Use Scores on Achievement Tests in Selecting New Hires

There is now a great deal of evidence that scores on tests like the SAT and the ACT are excellent predictors of job performance in a great variety of jobs and do not discriminate against minorities or women (Schmidt and Hunter and Northrop 1984, Hunter and Hunter 1984). Despite this, EEOC regulations and case law effectively require that a very expensive validation study be conducted before a firm can use any test to help select employees. The result has been to greatly diminish the use of tests for employee selection and to substantially reduce the rewards for learning. There is a strong public interest in strengthening the incentives to learn so government regulations should certainly not be a barrier to the use of tests and should encourage the use of broad spectrum achievement tests rather than "aptitude" tests. One approach would be to eliminate all government regulations in this area. An alternative would be to give broad spectrum achievement tests blanket clearance for broad categories of jobs and allow the use of tests measuring other types of aptitudes on a case by case basis.

4.5 Creating New Learning Opportunities Outside of School Greatly Expand Educational Programming on T.V.

American youngsters spend an average of 25 hours a week watching television. This is more time than they spend engaged in school sponsored learning activities and more time than the students in any other nation. Austrian students watch only 32 percent as much TV and Swiss students watch 40 percent as much. Canadian students watch 56 percent of the U.S. amount. (OECD, Table 18.1, 1986) Higher standards, longer school days and the expansion of nursery schools will reduce the U.S. figure (college students, for example, watch less TV than high school students) but time spent in front of a TV set is probably going to remain high.

This can, however, be viewed as an opportunity, for television has a vast potential as a positive educational force. Programs like Sesame Street, 3-2-1 Contact, NOVA and National Geographic are examples of what is possible. But these excellent programs account for a very small share of broadcast time. Transformers, GI Joe, Sheera, Bugs Bunny and MTV are cheaper to produce and are more effective advertising vehicles so they dominate the airwaves during the afternoon. Only a society that places little value on the transmission of its cultural heritage to the next generation would allow such a powerful medium for instructing the young to be guided solely by what sells toys, cereals and popular records.

If TV is to begin to achieve its educational potential we need: (1) more and above all better funded educational channels, (2) increased federal funding of the production of educational programs and (3) a requirement that every channel devote at least X percent of its air time (including specified percentages of late afternoon and prime time) to educational fare.[8]

One of the concerns that is sometimes expressed about federal funding of educational TV programs is it might give a single decision maker too much power. This danger can be avoided by maintaining the current dispersal of funding authority among many different governmental agencies. NSF, NIMH, NASA, National Endowment for the Humanities, and the Department of Education have all funded programs in the past and additional agencies should be recruited. Another safeguard that could be instituted would be to require that contracts be signed with production companies or educational institutions and not directly with networks or commercial stations. This would mean that the federal authority to fund educational programs would give it no leverage over the news departments of commercial stations and networks.

4.6 Helping Students Obtain Good Jobs

Schools can help their graduates avoid unemployment and get better jobs by improving the quality and facilitating the flow of employment-related information to students and their potential employers. Improving the information available to all parties in the job search/hiring system will have the following consequences:

- A greater share of school leavers will find employment.
- The jobs they obtain will pay better and offer more training and job security.
- The better jobs will be distributed more in accordance with the objective merit of the candidate.
- Students will commit a greater amount of time and effort to their studies as they perceive the greater payoffs for doing so.

Facilitating information flows also will contribute to achieving the educational goals that are the school's primary responsibility. A number of policies that have been advocated for educational reasons would also improve the credentials new high school graduates bring to the labor market:

- Helping students acquire needed basic and vocational skills along with good work habits
- Honoring academic achievement with a system of awards and schoolwide recognition for academic and nonacademic accomplishments similar to the system that recognizes athletic achievement
- Certifying competencies with certificates and diplomas that recognize competencies achieved rather than just time served
- Instituting statewide examinations
- Implementing a grading system that recognizes effort and improvement as well as accumulated knowledge
- Offering courses in job search skills to help students successfully navigate in the world of work
- Inviting employers to serve as advisors to your students

Policies whose primary objective is to ease the school-to-work transition or to facilitate information flows can also motivate students to apply themselves to their studies. Many students who would otherwise not be motivated to study, for example, can be motivated to apply themselves if they are shown the connection between today's schoolwork and tomorrow's jobs. Policies that facilitate information flow make the connection between effort in school and later labor market success more visible. Such policies include the following:

- Acting as a source of informal contact
- Developing long-term relationships between school staff and local employers who hire their school's graduates
- Formulating an effective and equitable policy for releasing information about students to potential employers
- Developing in cooperation with local employers a job search portfolio transcript that reports student accomplishments in a standardized format, and encouraging students to use it when seeking a job

Offering Courses in Job Search Skills

Schools have an important role to play in preparing youth to navigate

in the labor market. Career guidance and career counseling have been viewed as important school functions for many decades. Realizing that a career choice cannot be implemented unless a job can be obtained in the chosen field, many schools are teaching youths how to search for work (Wegmann 1979). They need to get practice in writing a resume, in interviewing and in employing the more effective informal modes of job search.

Acting as a Source of Informal Contacts

School personnel can be a reference and a source of job contacts for their students. Some students may feel that they do not have and cannot develop good employment contacts. School personnel can help out by building and maintaining trusting relationships with local employers and then helping to match employer and student needs. Students from disadvantaged backgrounds have special need for this kind of help, because their relatives and neighbors typically lack the work world contacts of middle-class families.

Many schools provide job placement and referral services for their students and graduates. Three and a half million people found their current job through a referral by their school or a teacher (Rosenfield 1975). This function of schools is a lot more important than is generally thought.

Whenever possible, there should be a one-on-one relationship between a specific teacher or administrator and an employer. A study by McKinney et al. (1982) found that when schools formalize this relationship by creating a placement office, the number of jobs found for students tends to decrease. The best example of an informal contact system is the one that exists for many vocational students. Vocational teachers often know local employers in related fields; they also know their students well enough to recommend

them. This kind of informal system could be extended to include all students not planning to attend college.

Guiding students in assessing jobs and employers.

Students need help in assessing jobs, and schools can provide them with the information necessary to make these assessments. Career guidance tends to focus on the individual's choice of occupation. Attention also needs to be given to selecting an employer and matching employer/employee needs. Young people who find good, high-wage jobs with promotion opportunities will end up changing jobs less often. Students need to learn how to assess such dimensions of a firm as training opportunities, promotion opportunities, job security provisions, maternity leave rules, vacation policies, policies regarding tardiness, friendliness of co-workers, effectiveness of supervision, medical insurance, educational leave, and tuition reimbursement.

Inviting Employers Into the School

Another way schools can help students develop informal contacts is to invite employers into the school. A retired employer, for example, can make an excellent volunteer advisor. This individual can come to the school and get to know a group of students. Students benefit from hearing firsthand stories about the business world and hearing what employers expect from employees. Students would also benefit by knowing someone in the field--by having a contact. The retired employer can help students by referring them to other employers.

Releasing Student Records

The school can help students provide employers with information by developing an equitable and efficient policy for releasing student records.

While developing this policy, school officials should keep in mind the dual goals of protecting the student's right to privacy and trying to help the student find a good, suitable job. The student and his or her parents should receive certified copies of the transcript and other records that might be released.

Schools can develop a form that would explain to parents and students their rights, as well as the pros and cons of disclosing information. The Buckley Amendment requires that the form specify the purpose of disclosure, which records are to be released, and who is to receive the records. The law allows the student to specify a "class of parties." The class specified could be "all potential employers contacted by the student," which would cut down on the paper work needed. Once the student has filed a request, the school is required by law to comply. Schools can best serve students by handling all inquiries expeditiously and without charge.

Developing a Job Search Portfolio

Schools should consider providing students with a job search portfolio or competency profile that records all their accomplishments in one place. Students attempting to market themselves to employers will have greater success if all their school achievements are summarized in one compact, standardized document. Compactness and standardization make it easier for employers to use information in their hiring decisions and this facilitates information flow.

The coverage and format of the document are probably best worked out cooperatively by a committee that includes school administrators, employers and other interested parties. Developing and using such a document might be a part of a campaign to enlist commitments from major local employers

to hire the school's graduates. Developing the information system cooperatively is a good way to ensure that the finished form will be beneficial to schools, employers, and students.

Students have many talents and skills that can be highlighted in such a document. The job search portfolio should emphasize accomplishments and performance indicators that are most useful in identifying a good match between a job and a youth. Student and parents should receive copies of it, and students should be encouraged to bring copies with them when they apply for jobs. Employers should be encouraged to ask to see the portfolio and keep a copy when a job application is filed.

Summary

Students leaving school today to look for jobs face serious problems. When an employer is considering a group of applicants, a recent school leaver is at a disadvantage. The employer generally knows little about new entrants to the labor market and will probably pass over them in favor of more experienced candidates. To get a good job, the young person must be noticed; he or she must stand out in a crowd of applicants. Schools can help students overcome such problems by taking these steps:

- Help students see the value of acquiring needed basic skills
  --Emphasize the connections between school performance and job success.
  --Improve communication with employers to maximize performance rewards.

- Teach students to make themselves worth marketing and then to market themselves.
  --Motivate students through a strong school reward structure.
  --Teach students the value of personal contacts.
  --Encourage school personnel to act as informal contacts.

- Help employers get information about students.
  --Teach students to evaluate employers and job offers accurately.
  --Teach students the value of giving employers information.
  --Encourage students to create and use a job search portfolio.

--Make it as easy as possible for employers to get student transcripts.

Employers can help by taking the following steps:

- Ask school personnel to recommend graduating students for jobs at their firms.
- Give greater emphasis to school grades and performance on achievement tests (such as the New York State Regents Exams) when making hiring selections, and publicize this emphasis to the community.
- Work cooperatively with schools to ensure that transcripts are sent rapidly when student permission has been obtained and to establish a more complete standardized reporting framework like a job search portfolio.
- Volunteer to speak in schools about the competencies required for getting a job and for being successful at work.
- Volunteer to become a mentor for small groups of students.

Footnotes

1. For example, numerous studies show that lower tuition at public institutions and more financial aid raise the probability of high school graduates going to college, and that this effect is larger for young people from low-income families (see Jackson and Weathersby 1975 for a review of this literature). College enrollments and student choice of an undergraduate major or a postgraduate program respond to the income advantage and the perceived availability of jobs in the field (Freeman 1971, 1976a, 1976b; Bishop 1977). Labor market conditions also affect dropping out of high school (Bowen and Finegan 1969; Lerman 1972; Gustman and Steinmeier 1981). The minimum wage (Ehrenberg and Marcus 1982) and the quality of the schooling offered (Gustman and Pidot 1973) have also been shown to affect drop out rates.

2. An increase of 110 SAT is chosen because it represents one standard deviation increase. Since SAT tests are scaled to have a standard deviation of 110, simultaneous one standard deviation improvements on both verbal and math tests would be like raising both verbal and math SAT scores from 400 to 510. If one begins at the 50th percentile of a normally distributed population, a one standard deviation improvement in performance raises one to the 84th percentile. For 12th graders such an improvement is approximately equal to 3 grade equivalents. By reporting the percentage changes in labor market outcomes that result from a one standard deviation change in GPA or performance on a test, we make the results of studies done on very different cohorts of workers comparable over time and understandable to the layman.

3. Studies that measure output for different workers in the same job at the same firm, using physical output as a criterion, have found that the standard deviation of output is approximately 20 percent of the mean when pay is not a function of measurable outputs and 15 percent of the mean when pay is by commission or a piece rate (Schmidt and Hunter 1983). Since there are fixed costs to employing an individual (facilities, equipment, light, heat and overhead functions such as hiring and payrolling), the coefficient of variation of marginal products of individuals will be considerably greater (Klein, Spady, and Weiss 1983). On the assumption that the coefficient of variation of marginal productivity for clerical jobs is 30 percent, the .54 validity of general mental ability implies that academic achievement differential equivalent to 110 points on the SAT test between two individuals is associated with a productivity differential in the job of 16 percent (.54 x 30%). The bottom value of the range reported in the text assumes the coefficient of variation of productivity is 20 percent.

4. In many cooperative learning systems, the individual's contribution to the team score is a gain in score relative to an individualized learning expectation.

5. The review was limited to studies in which treatments lasted at least 2 weeks in a regular school setting. The experimental and control groups were exposed to the same curriculum, and students were not allowed to

help each other on final tests.

6. To facilitate scheduling and to maximize time on task, courses would run for an entire half day or all day. During the lunch break the buses could transport half day students to and from the school. Students would not have to give up their whole summer, for the short courses would be organized in 3 or 4 week units.

7. The exams would cover the material covered during the year. Ideally an individual achievement standard would be assigned to each student at the beginning of the year. This way students with major deficiencies in their background would not be facing an impossible goal. One way this could be done would be to require summer school only for those who simultaneously fall below some absolute standard and who fail to make at least a one year gain in terms of grade level equivalents from June to June.

8. In order for a program to be considered educational it would have to be under the creative control of a subject matter expert (e.g., Jacob Bronowski, Carl Sagan), an educational institution or a committee of educators and subject matter experts. Each network and independent station would have its own educational advisory committee but the decision making power would remain with the network/station. To minimize the politics, appointments to these committees would be for a fixed non-renewable term and the power to appoint would be dispersed among a variety of elected officials and educational organizations. For example, in states which elect a state educational commissioner, the official might make one appointment to the advisory committees for each station located in the state. The board of education for the largest city included in a station's viewing area might also be asked to appoint one member. The teachers association representing most of the teachers in the viewing area might be allowed to elect still another.

Bibliography

Bishop, John. "The Effect of Public Policies on the Demand for Higher Education." Madison: Institute for Research on Poverty, University of Wisconsin-Madison, 1977.

Bowen, W. G. and Finegan, T. A. The Economics of Labor Force Participation. Princeton: Princeton University Press, 1969.

Ehrenberg, R. G. and Marcus, A. "Minimum Wages and Teenagers' Enrollment and Employment Outcomes: A Multinomial Logit Model." Journal of Human Resources, Winter 1982.

Freeman, Richard B. The Market for College-Trained Manpower: A Study in the Economics of Career Choice. Cambridge, MA: Harvard University Press, 1971.

_____. "A Cobweb Model of the Supply and Starting Salary of New Engineers." Industrial and Labor Relations Review, 29, January 1976a, pp. 236-248.

_____. The Overeducated American. New York: Academic Press, 1976b.

Gardner, John A. Influence of High School Curriculum on Determinants of Labor Market Experience. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

Goodlad, J. A Place Called School. New York: McGraw-Hill, 1983.

Griggs vs. Duke Power Company, 3 FEP 175 (1971).

Gustman, Alan L. and Pidot, Jr., George B. "Interactions Between Educational Spending and Student Enrollment." The Journal of Human Resources, 8, no. 1, Winter 1973, 3-23.

Gustman, Alan L. and Steinmeier, Thomas L. "The Relation Between Vocational Training in High School and Economic Outcomes." Paper prepared for the Division of Technical Systems in the Office of Technical and Analytic Systems, Office of the Assistant Secretary for Planning and Budget, U.S. Department of Education. Hanover, NH: Dartmouth College, July 1981.

Hause, J. C. "Ability and Schooling as Determinants of Lifetime Earnings, or If You're So Smart, Why Aren't You Rich." In Education, Income, and Human Behavior, edited by F. T. Juster. New York: McGraw-Hill, 1975.

Hunter, J. E. and Hunter, R. F. "The Validity and Utility of Alternative Predictors of Job Performance." Psychological Bulletin, 96, no. 1, 1984, pp. 72-98.

Jackson, G. A. and Weathersby, G. B. "Individual Demand for Higher Education." Journal of Higher Education, 46, Nov./Dec. 1975, pp. 623-52.

Jencks, Christopher and Crouse, James. "Aptitude vs. Achievement: Should We Replace the SAT?" The Public Interest, 1982.

Kang, Suk. "Time Profile of Youths' Labor Market Outcomes: An Analysis of High School and Beyond Data." In High School Preparation for Employment, pp. 95-135. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1984.

McKinney, Floyd, et al. Factors Relating to the Job Placement of Former Secondary Vocational Educational Students. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

Meyer, R. "Job Training in the Schools." In Job Training for Youth, edited by R. Taylor, H. Rosen, and F. Pratzner. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

_____. "Jobseeking Methods Used by American Workers." Monthly Labor Review, 98, no. 8, 1975, pp. 39-42.

Kirsch, Irwin S. and Jungeblut, Ann. "Literacy: Profiles of America's Young Adults." Report # 16-PL-02 from the National Assessment of Education Progress.

Krista. Paper for ILR 360, Cornell University

Leestma, Robert, et. al. "Japanese Education Today." A report from the U.S. Study of Education in Japan prepared by a special task force of the OERI Japan Study Team.

"Living Conditions in OECD Countries: A Compendium of Social Indicators." Social Policy Studies No. 5 by the Organisation for Economic Co-Operation and Development.

Schmidt, Frank L.; Hunter, John E. and Northrop, Lois C. "Cognitive Correlates of Success in the World of Work for Non-College Graduates." Paper presented for the Panel on Secondary School Education for the Changing Workforce. East Lansing, MI: Michigan State University, October 1983.

Sizer, Theodore R. Horace's Compromise: The Dilemma of the American High School. The First Report from A Study of High Schools, co-sponsored by the National Association of Secondary School Principals and the Commission on Educaitonal Issues of the National Association of Independent Schools, 1985.

Slavin, Robert E. "When Does Cooperative Learning Increase Student Achievement?" Psychological Bulletin, 1985.

Taubman, P. and Wales, T. "Education as an Investment and a Screening Device." In Education, Income, and Human Behavior, edited by F. T. Juster. New York: McGraw-Hill, 1975.

Wegmann, R. G. "Job-Search Assistance: A Review." Journal of Employment Counseling, 16, 1979, pp. 197-228.